## Follow-up review of "Ice Nucleation by smectites: The role of the edges," by A. Kumar et al. 2022

I feel the authors have adequately addressed my concerns. However, I would still argue that the way the authors treat the DSC curve analysis is rather rough and perhaps more quantitative data could emerge if better curve fitting algorithms were employed. Although we have not made the same suggestions I see from the Vali response that he had similar ideas. Moreover, it seems in the response to his point that a peak in the differential spectrum of the DSC curve would correspond precisely with the location of the steepest slope and that might be another useful marker seemed to be a bit misinterpreted. This is not peak temperature, as the response seems to narrow in on. Finally because the shapes of the curves (i.e., the tails) will not always be the same for the *het* and *hom* cases I do not entirely buy the argument that the chosen method of integration would not be significantly outperformed by a doublet deconvolution, and thus perhaps yield more insight. All of the singly peaked DSC curves are quite symmetrical, why would we not expect the same of others? Thus knowing one tail should allow robust fitting of the other (the part convoluted with the other freezing behavior).

This said, the author's larger point is that this information leads only to relative weighting and this is only one of a few barriers in the technique that prevent quantified nucleation information from emerging. Rather the point is more to give insight into what promotes freezing earlier versus later.

## Itemized Scientific and Editorial Comments from the resubmitted tracked changes manuscript version:

*Specific Suggestions by Page and Line Number (page, line):*

• (11,293) should read....and are also shown in....

• (11,294) Rigorously $\sim$ means similar to, as in the same order of magnitude, whereas $\approx$ means approximately. Here the later should be used given the range is less than 1 order of magnitude.

• (11,300) should read....In the case of emulsions formed with pure water....

• (Figure 1, caption) should read.....For references purposes a DSC....for the samples.

• (22,487) The 2 sentences beginning, "Though (001)," and ending..."(Ren et al., 2020)" are difficult to read and include dangling clauses etc. I would suggest rephrasing to improve clarity.

• (30,673) should read....Only a few....

• (30,677) should read...started with dry particles

• (30,689) should read.....atomic configurations for ....

• (30,690) should read...in simulations to obtain....

A general comments: at times the usage of "in immersion freezing mode" seems like it would better written ....in the immersion freezing mode.

Although willing to review another edition of this manuscript, I do not see any acute need. I can recommend the manuscript for publication when these technical corrections are made and the editor is happy.